State of California

The Resources Agency

Memorandum

Date : October 28, 1997

To : Cathy Crothers, Staff Counsel
Office of the Chief Counsel

From : Randall L. Brown, Chief RLB
Environmental Services Office
Department of Water Resources

Subject: Spring Run Take Limit

This is in response to your recent request for comments on a possible two percent incidental take level for spring run juveniles at the State and federal export facilities. My basic response is that such a take limit should not be implemented. My rationale behind this recommendation is as follows.

1. A numeric incidental take level is not necessary to protect juvenile spring chinook at this time.

   The spring run protection plan produced by CALFED Ops Group provides adequate protection for spring run through January 31, 1998. Other protective measures, as called for by the 1994 Delta Accord, then come into effect. The Ops Group plan includes near real-time data collection and dissemination, triggers, frequent interagency and stakeholder communication, data analysis and contingency operational measures should spring run triggers be tripped. The Ops Group and its Data Assessment Team are also discussing the use of the percentage take of known numbers of marked late-fall run salmon released in the upper Sacramento River near Redding as an indication of the extent to which spring run yearlings are impacted by the Central Valley Project and the State Water Project pumping. The late-fall run will be released this fall/early winter and the young salmon are in the same size range postulated for yearling spring run.

2. It is not technically possible to establish and monitor compliance with a spring run incidental take level at this time.

   A percentage-based take limit for juvenile spring chinook requires that we are able to estimate the numbers of individuals available to be taken and that we are able to distinguish spring run from other juvenile chinook salmon being salvaged at the State and federal fish protective facilities. Presently we cannot do either of these components with any degree of certainty.

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To estimate the numbers of spring chinook that might be exposed to the Delta pumps, we need to know the number of spawners, the number of females, the number of eggs deposited in the gravel, and the survival of these eggs to various life stages such as emerging fry, smolts and yearlings. The problem with spring chinook is that unknown numbers may hold over in the upper watershed over summer and emigrate as yearlings. The percentage of yearling outmigrants probably varies between streams and annually based on hydrologic and other conditions. During the past year, for example, the unusual hydrology (i.e., unprecedented high late December/early January flows) the emerging fry were likely to have been washed downstream and many of the eggs washed from the gravel before the young fish were ready to emerge. We have no way of estimating the numbers of yearling spring run that may enter the Delta this fall/early winter.

There is no physical or genetic means of distinguishing juvenile spring run chinook from the other four races when the individuals are found mixed together in the Delta. For example, during the fall and early winter months, juvenile yearling spring run chinook overlap in length with late-fall run, winter run and fall run yearlings. The first major winter storms bring spring run and fall run fry into the Delta and their sizes also overlap. Although preliminary genetic testing indicates that it may be possible to distinguish spring run from the other races, additional diagnostic markers are needed before the results are sufficiently quantitative.

If you have any questions or would like more information, please call me at (916) 227-7531.

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